

## REMARKS

### I. Summary of the Office Action

Claims 1-34 are pending in this application.

Claims 1-8, 11-22 and 24-29 are rejected under 35 U.S.C. § 102(e) as being anticipated by Madrid et al. U.S. Patent No. 6,988,217 (hereinafter "Madrid").

Claims 9-10, 23 and 30 are rejected under 35 U.S.C. § 103(a) as being obvious from Madrid in view of Patterson et al. U.S. Patent No. 6,653,957 (hereinafter "Patterson").

Claims 7 and 20, are further rejected under 35 U.S.C. § 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter of the claimed invention.

Claims 11-16 are objected to under 37 C.F.R. § 1.75(c) as being in improper dependent form for failing to further limit the subject matter of a previous claim.

Figure 2 is objected to under 37 C.F.R. § 1.83(a) as failing to show applicants' claimed invention operating "according to said predetermined sequence," and for containing informalities.

### II. Summary of Applicants' Reply

Applicants have amended FIG. 2 to address the Examiner's objection.

Applicants have also amended the specification to correct a minor typographical error.

Applicants have cancelled claim 4 without prejudice. In addition, applicants have amended claims 1, 5, 7, 11-15, 17, 20 and 27 to more particularly define the subject matter of the claimed invention and for clerical purposes.

These amendments are fully supported and justified by the original application as filed. No new matter has been added.

The Examiner's claim rejections and objections to the drawings and claims are respectfully traversed. Applicants respectfully request that these rejections and objections be withdrawn.

III. The Objection to Figure 2

FIG. 2 is objected to under 37 C.F.R. § 1.83(a) as allegedly failing to show applicants' claimed invention operating "according to said predetermined sequence" and for incorrectly depicting the operational relationship between elements 20 and 32.

Applicants have amended FIG. 2 to reverse the direction of the arrow pointing to control circuitry 32.

Applicants respectfully traverse the Examiner's contention that FIG. 2 fails to show the invention operating "according to said predetermined sequence." (See Office Action, page 2, line 4). Amended FIG. 2 shows an arrow from control circuitry 32 to multiplexer circuitry 20 which sufficiently depicts multiplexer circuitry 20 receiving the predetermined sequence from control circuitry 32 which may store, or otherwise cause multiplexer circuitry 20 to construct, the predetermined sequence in question. See the specification which states *inter alia* that: 1) "Multiplexer 20 may be controlled by control circuitry 32, which may be programmed to select a particular sequence of patterns" (see page 7, lines 12-14), and 2) "Once the sequence is determined, it may be stored, for example, in control circuitry 32" (see page 11, lines 29-30).

In view of the foregoing remarks and amendment, applicants respectfully request that the objection to FIG. 2 be withdrawn.

IV.           The Objection to Claims 11-16

Claims 11-16 are objected to under 37 C.F.R. § 1.75(c) as being in improper dependent form for failing to further limit the subject matter of a previous claim. Applicants have amended claims 11-15 to put them in proper dependent forms. Applicants submit that claim 16, which depends from amended claim 14 is in proper dependent form.

Applicants therefore respectfully request that the objection to claims 11-16 be withdrawn.

V.           The § 112 Rejection of Claims 7 and 20

The Examiner rejected claims 7 and 20 under 35 U.S.C. § 112, second paragraph, for allegedly failing to particularly point out and distinctly claim the subject matter of the claimed invention. Specifically, the Examiner alleges that each of claims 7 and 20 "appears to be misdescriptive since figure 2 shows CONTROL CIRCUITRY operating independent from 'said predetermined sequence'." (See Office Action, page 3, #4). The Examiner's rejection is respectfully traversed.

Applicants have amended claims 7 and 20 to more particularly point out the subject matter of the claimed invention. In addition, as stated in Section III above, applicants have amended figure 2 to correct informalities. Applicants therefore submit that amended figure 2 sufficiently depicts the claimed invention operating in accordance with said predetermined sequence.

Accordingly, amended claims 7 and 20 are sufficiently clear. Applicants therefore respectfully request that the Examiner's rejection be withdrawn.

VI. The § 102 Rejection

Claims 1-8, 11-22 and 24-29 are rejected under 35 U.S.C. § 102(e) as being anticipated by Madrid. This rejection is respectfully traversed.

A. Independent Claim 1

Referring to FIG. 5, Madrid generates a clock (on signal 772) by alternatively conveying single bit values 792A and 792B of registers 730A and 730B, respectively, via multiplexer 770. Multiplexer 770 selects either single bit value 792A or 792B depending on the state of clock signal 710, which is used as the select signal for multiplexer 770. Thus, Madrid generates a clock signal by alternatively multiplexing a signal bit from a register per clock cycle. This is contrary to applicants' claimed multiplexer circuitry which "receives the contents of the first and second byte patterns in parallel," as specified in independent claim 1. This is illustrated, for example, in applicants' FIG. 1, where the entire contents (note the 'N' which indicates the presence of more than one bit) of either memory 12 or 14 are loaded into multiplexer 20 in parallel, not in serial.

The Examiner contends that multiplexer 780 reads on applicants' claimed "serializer circuitry." (See Office Action, page 4, #6, lines 17-19). This is simply not so. A serializer is at least functionally distinct from a multiplexer. For example, the multiplexer in Madrid selects and outputs one of its inputs without substantially modifying the input. In contrast, the serializer in applicants' invention takes a plurality of bits in parallel and converts

the parallel input into a 1-bit serial output. In fact, since the circuitry in Madrid multiplexes one bit at a time, it cannot teach serializing that single bit.

Accordingly, for at least the foregoing reasons, applicants respectfully submit that independent claim 1 is allowable over Madrid. Dependent claims 2, 3, 5-8, and 11-16 are also allowable for at least the reason they depend from allowable independent claim 1.

B. Independent Claims 17 and 27

Independent claims 17 and 27 specify, among other things, that the predetermined frequency of a synthesized clock signal is a function of a serial clocking frequency and a serialized sequence of a first and second byte patterns. Madrid fails to show or suggest serializing a selected sequence of first and second byte patterns, as discussed above under Section VI-A.

Accordingly, for at least the foregoing reason, applicants respectfully submit that independent claims 17 and 27 are allowable over Madrid. Dependent claims 18-22, 24-26, 28, and 29 are also allowable for at least the reason they depend from allowable independent claims 17 or 27.

VII. The § 103 Rejection

Claims 9-10, 23 and 30 are rejected under 35 U.S.C. § 103(a) as being obvious from Madrid in view of Patterson. The Examiner's rejection is respectfully traversed.

Claims 9-10, 23 and 30 depend from independent claims 1, 17 and 27. Applicants have established, in Section VI above, that independent claims 1, 17 and 27 are allowable over the prior art of record. Accordingly, dependent claims 9-10, 23 and 30 are allowable for at least

the reason they depend from allowable independent claims 1, 17 and 27.

VIII. Claims 31-34

The Office Action contained no disposition to claims 31-34. Applicants respectfully submit that claims 31-34 are allowable for at the reason they depend from allowable independent claim 27.

IX. Conclusion

In view of the foregoing, claims 1-3 and 5-34 are in condition for allowance. Reconsideration and allowance of this application are accordingly respectfully requested.

Respectfully submitted,



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Amendments to the Drawings

Please approve the following amendment to FIG. 2 as indicated in red on the attached copy of the informal drawing for FIG. 2:

reverse the direction of the arrow pointing to control circuitry 32.

Replacement drawing sheet 2 is attached herewith for use as Formal Drawing for Figure 2.

Annotated sheet 2 is attached herewith to the changes to original Figure 2.